WHAT IS CLAIMED IS:

1. A method for assaying the activity of a transcriptional control element, the method comprising:

- expressing from the transcriptional control element a polynucleotide that encodes a polypeptide and that is operably connected to a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide; and
- measuring the level or functional activity of the polypeptide produced from the expression.

2. A method according to claim 1, wherein the RNA element is a destabilising element which reduces the stability of the transcript.

3. A method according to claim 1, wherein the polynucleotide and the nucleic acid sequence are heterologous to each other.

4. A method according to claim 1, wherein the polypeptide has an intracellular half-life of less than about 3 hours.

5. A method according to claim 1, wherein the polypeptide comprises a protein-destabilising element.

6. A method according to claim 5, wherein the protein-destabilising element is selected from a PEST sequence, an N-terminal destabilising amino acid or an ubiquitin or a biologically active fragment thereof, or variant or derivative of these.

7. A method according to claim 1, wherein the polypeptide is a reporter protein.

8. A method according to claim 7, wherein the reporter protein is selected from an enzymatic protein or a protein associated with the emission of light.

9. A method according to claim 7, wherein the reporter protein is a fluorescent protein or a luminescent protein.

10. A method according to claim 1, wherein the expression of the polynucleotide is carried out in the presence of a test agent.

11. A method according to claim 10, wherein the method further comprises:

- comparing the level or functional activity of the polypeptide produced in the presence and absence of the test agent.

12. A method according to claim 10, wherein the expression of the polynucleotide is carried out in a first cell type or condition and in a second cell type or condition, wherein a difference in the level or functional activity of the polypeptide in the presence of the test agent between the cell types or conditions provides information on the effect of the test agent on the cell types or conditions.

13. A method according to claim 1, wherein the method comprises:

– expressing from the first transcriptional control element in a first construct a first polynucleotide that encodes a first polypeptide and that is operably connected to a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the first polynucleotide;

– measuring the level or functional activity of the first polypeptide produced from the first construct;

– expressing from a second transcriptional control element in a second construct a second polynucleotide that encodes a second polypeptide and that is operably connected to a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the second polynucleotide, wherein the expression of the second polynucleotide is carried out in the presence or absence of the test agent, and wherein the second transcriptional control element is different than the first transcriptional control element;

– measuring the level or functional activity of the second polypeptide produced from the second construct; and

– comparing the level or functional activity of the second polypeptide with the level or functional activity of the first polypeptide in the presence or absence of the test agent.

14. A method according to claim 13, wherein the first construct and the second construct are both present on a single vector.

15. A method according to claim 13, wherein the first construct and the second construct are present on different vectors.

16. A method according to claim 13, wherein the first polypeptide and the second polypeptide are detectably distinguishable.

17. A method according to claim 13, wherein the first construct and the second construct are contained within a single cell.

18. A method according to claim 13, wherein the first construct and the second construct are contained within different cells.

19. A method according to claim 13, wherein at least one of the first and second polypeptides has an intracellular half-life of less than about 3 hours.

20. A method according to claim 13, wherein both the first and second polypeptides have an intracellular half-life of less than about 3 hours.

21. A method according to claim 1, wherein the activity of the transcriptional control element is a measure of a cellular event.

22. A method according to claim 21, wherein the cellular event is selected from cell cycle progression, apoptosis, immune function, modulation of a signal transduction pathway, modulation of a regulatory pathway, modulation of a biosynthetic pathway, toxic response, cell differentiation and cell proliferation.

23. A construct for assaying the activity of a gene expression-modulating element or for identifying elements of this type or agents that modulate their activity, the construct comprising in operable linkage: a polynucleotide that encodes a polypeptide and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide, wherein the construct lacks, but comprises a site for introducing, the gene expression-modulating element in operable connection with the polynucleotide and the nucleic acid sequence.

24. A construct according to claim 23, wherein the RNA element is a destabilising element which reduces the stability of the transcript.

25. A construct according to claim 23, wherein the polynucleotide and the nucleic acid sequence are heterologous to each other.

26. A construct according to claim 23, wherein the polypeptide has an intracellular half-life of less than about 3 hours.

27. A construct according to claim 23, wherein the polypeptide comprises a protein-destabilising element.

28. A construct according to claim 27, wherein the protein-destabilising element is selected from a PEST sequence, an N-terminal destabilising amino acid or an ubiquitin or a biologically active fragment thereof, or variant or derivative of these.

29. A construct according to claim 23, wherein the RNA element is a stabilising element which increases the stability of the transcript.

30. A construct according to claim 23, wherein the polypeptide is a reporter protein.

31. A construct according to claim 30, wherein the reporter protein is selected from an enzymatic protein or a protein associated with the emission of light.

32. A construct according to claim 30, wherein the reporter protein is a fluorescent protein or a luminescent protein.

33. A construct according to claim 23, further comprising a cloning site for introducing a sequence of nucleotides.

34. A construct according to claim 33, wherein the cloning site is a multiple cloning site.

35. A construct according to claim 23, further comprising a polyadenylation sequence.

36. A construct according to claim 23, further comprising a selectable marker.

37. A construct according to claim 23, further comprising an origin of replication.

38. A construct according to claim 23, further comprising a translational enhancer.

39. A construct according to claim 23, which is a vector.

40. A construct according to claim 23, further comprising one or more members selected from the group consisting of:

(i) a multiple cloning site for introducing a sequence of nucleotides;

(ii) a reporter gene;

(iii) a transcriptional enhancer for enhancing transcription of the polynucleotide;

(iv) a translational enhancer for enhancing translation of the transcript encoded by the polynucleotide;

(v) a polyadenylation sequence;

(vi) a selectable marker gene;

(vii) an origin of replication;

(viii) an intron; and

(ix) a mRNA nuclear export signal

41. A construct according to claim 33 or claim 40, comprising at least one site which is cleavable enzymatically, chemically or otherwise to provide a linearised vector into which PCR amplification products are clonable directly.

42. A construct according to claim 24, wherein the nucleic acid sequence is, or is derived from, a gene selected from *c-fos, c-jun, c-myc, GM-CSF, IL-3, TNF-alpha, IL-2, IL-6, IL-8, IL-10, Urokinase, bcl-2, SGLT1 (Na(+)-coupled glucose transporter), Cox-2 (cyclooxygenase 2), IL-8, PAI-2 (plasminogen activator inhibitor type 2), beta1-adrenergic receptor* or *GAP43.*

43. A construct according to claim 29, wherein the nucleic acid sequence is, or is derived from, a gene selected from *alpha2 globin, alpha1 globin, beta globin, growth hormone, erythropoietin, ribonucleotide reductase R1* or *m1 muscarinic acetylcholine.*

44. A construct according to claim 24, wherein the nucleic acid sequence is selected from any one of SEQ ID NOS 1 to 57, or biologically active fragments thereof, or variants or derivatives of these.

45. A construct according to claim 24, wherein the nucleic acid sequence is selected from SEQ ID NO:1, 13, 19 or 49 , or biologically active fragments thereof, or variants or derivatives of these.

46. A construct according to claim 30, wherein the reporter protein is selected from Luciferase, Green Fluorescent Protein, Red Fluorescent Protein, SEAP, CAT, or biologically active fragments thereof, or variants or derivatives of these.

47. A construct according to claim 23, wherein the polypeptide is a protein having at least a light-emitting activity and a selection marker activity.

48. A construct according to claim 47, wherein the polypeptide is encoded by a chimeric gene comprising a coding sequence from a gene encoding a light-emitting protein and a coding sequence from a gene encoding a selectable marker protein.

49. A construct according to claim 47, wherein the polypeptide is encoded by a chimeric gene comprising a coding sequence from a gene encoding: a light-emitting protein selected from Green Fluorescent Protein, Luciferase and their biologically active fragments, variants and derivatives; and a coding sequence from a gene encoding a selectable marker protein selected from kanamycin kinase, neomycin phosphotransferase, aminoglycoside phosphotransferase, puromycin N-acetyl transferase, puromycin resistance protein and their biologically active fragments, variants and derivatives.

50. A construct according to claim 23, wherein the gene expression modulating element is a transcriptional control element.

51. A construct according to claim 50, wherein the transcriptional control element is a promoter.

52. A construct according to claim 23, wherein the gene expression modulating element is a *cis*-acting regulatory element.

53. A construct according to claim 52, wherein the *cis*-acting regulatory element is selected from an enhancer of transcription, an enhancer of translation, an enhancer of mRNA splicing, an enhancer of mRNA export, an enhancer of mRNA degradation, a repressor of transcription, a repressor of translation, a repressor of mRNA splicing, a repressor of mRNA export or a repressor of mRNA degradation.

54. A cell comprising a construct according to claim 23.

55. A cell according to claim 54, wherein the cell is a eukaryotic cell.

56. A cell according to claim 54, wherein the cell is a mammalian cell.

57. A cell according to claim 54, wherein the cell is a human cell.

58. A cell according to claim 54, wherein the cell is a plant cell.

59. A genetically modified non-human organism comprising one or more constructs according to claim 23.

60. A method for identifying an agent that modulates the activity of a gene expression-modulating element, the method comprising:

- expressing under the control of the gene expression-modulating element a polynucleotide that encodes a polypeptide and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide in the presence and absence of a test agent;
- measuring and comparing the level or functional activity of the polypeptide in the presence and absence of the test agent, wherein a difference between the level or functional activity of the polypeptide in the presence and absence of the test agent indicates that the test agent modulates the activity of the gene expression-modulating element.

61. A method for assaying the activity of a post-transcriptional control element, the method comprising:

- expressing from a transcriptional control element a polynucleotide that encodes a polypeptide having intracellular half-life of less than about 3 hours and that is operably linked to: a nucleic acid sequence that encodes the post-transcriptional control element; and
- measuring the level or functional activity of the polypeptide produced from the expression.

62. A method for assaying the activity of a post-transcriptional control element, the method comprising:

- expressing from a transcriptional control element a polynucleotide that encodes a polypeptide comprising a protein-destabilising element and that is operably linked to: a nucleic acid sequence that encodes the post-transcriptional control element; and
- measuring the level or functional activity of the polypeptide produced from the expression.

63. A method for identifying a nucleotide sequence that encodes a post-transcriptional control element that modulates the expression of a RNA transcript from a first polynucleotide that encodes a polypeptide, the method comprising:

- expressing from a first transcriptional control element in a first construct the first polynucleotide, which is operably connected to a test nucleotide sequence suspected of encoding the post-transcriptional control element;
- expressing from a second transcriptional control element in a second construct a second polynucleotide, which encodes a second polypeptide, but which is not operably connected to the test nucleotide sequence, wherein the second polypeptide is the same as, or different than, the first polypeptide and wherein the second transcriptional control element is the same as, or different than, the first transcriptional control element; and

– comparing the level or functional activity of the polypeptides from the first and second constructs, wherein a difference between the level or functional activity of the first polypeptide and the level or functional activity of the second polypeptide indicates that the test nucleotide sequence encodes a post-transcriptional control element.

64. A method for identifying an agent that modulates the activity of a post-transcriptional control element that modulates the expression of a RNA transcript from a polynucleotide that encodes a polypeptide, the method comprising:

– expressing from a transcriptional control element the polynucleotide, which is operably connected to a nucleic acid sequence that encodes the post-transcriptional control element, wherein the expression of the polynucleotide is carried out in the presence and absence of a test agent; and

– measuring and comparing the level or functional activity of the polypeptide in the presence and absence of the test agent, wherein a difference between the level or functional activity of the polypeptide in the presence and absence of the test agent indicates that the test agent modulates the activity of the post-transcriptional control element.

65. A method for assaying the activity of a transcriptional control element, the method comprising:

- expressing from the transcriptional control element a polynucleotide which encodes a polypeptide comprising a protein-destabilising element and which is operably connected to a nucleic acid sequence which encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide; and

- measuring the level and/or functional activity of the polypeptide produced from the construct.

66. A method for identifying a *cis*-acting regulatory element that modulates the activity of a transcriptional control element, the method comprising:

– subjecting a construct to conditions sufficient for RNA and protein synthesis to occur, wherein the construct comprises in operable linkage: a nucleotide sequence suspected of having *cis*-acting regulatory activity; the transcriptional control element; a polynucleotide that encodes a polypeptide and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide; and

– detecting production of the polypeptide from the construct.

67. A construct comprising in operable linkage: a polynucleotide that encodes a polypeptide comprising a protein-destabilising element, and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide.

68. A construct comprising in operable linkage: a polynucleotide that encodes a polypeptide having a half-life of less than about 3 hours, and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide.

69. A construct for identifying or assaying the activity of a post-transcriptional control element that modulates the expression of a transcript, the construct comprising a transcriptional control element that is operably connected to: a polynucleotide from which the transcript is transcribed and which encodes a polypeptide having an intracellular half-life of less than about 3 hours; and a nucleotide sequence that encodes, or is suspected to encode, the post-transcriptional control element or a site for introducing the nucleotide sequence.

70. A construct for identifying or assaying the activity of a *cis*-acting regulatory element other than a post-transcriptional control element, the construct comprising a transcriptional control element in operable linkage with: a polynucleotide that encodes a polypeptide and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide, wherein the construct further comprises a *cis*-acting regulatory element or a nucleotide sequence suspecting of being a *cis*-acting regulatory element or a site for introducing the *cis*-acting regulatory element or the nucleotide sequence in said operable linkage.

71. A construct for assaying the activity of a transcriptional control element or for identifying agents that modulate the activity of the transcriptional control element, the construct comprising the transcriptional control element in operable linkage with: a polynucleotide that encodes a polypeptide having an intracellular half-life of less than about 3 hours; and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide.

72. A construct for assaying the activity of a transcriptional control element or for identifying agents that modulate the activity of the transcriptional control element, the construct comprising the transcriptional control element in operable linkage with: a polynucleotide that encodes a polypeptide that comprises a protein-destabilising element; and a nucleic acid sequence that encodes a RNA element that modulates the stability of a transcript encoded by the polynucleotide.